NO.401   004

DOCKET NO. 01-HK-048 (STMI01-01048)
SERIAL NO. 10/036,809
PATENT

IN THE CLAIMS

Following are the current claims. For the claims that have <u>NOT</u> been amended in this response, any differences in the claims below and the current state of the claims is unintentional and in the nature of a typographical error:

1. (Original)   For use in a fixed-size packet switch, a switch fabric comprising:

N input buffers capable of receiving incoming fixed-size data packets at a first data rate and outputting said fixed-size data packets at a second data rate equal to at least twice said first data rate;

N output buffers capable of receiving fixed-size data packets at said second data rate and outputting said fixed-size data packets at said first data rate; and

a bufferless, non-blocking interconnecting network capable of receiving from said N input buffers said fixed-size data packets at said second data rate and transferring said fixed-size data packets to said N output buffers at said second data rate.

2. (Original)   The switch fabric as set forth in Claim 1 wherein said bufferless, non-blocking interconnecting network comprises a bufferless crossbar.

3. (Original)   The switch fabric as set forth in Claim 1 wherein each of said N input buffers is at least twice the size of each of said N output buffers.

4.   (Previously Presented) A method of operating a switch fabric in a fixed-size packet switch, the method comprising the steps of:

storing incoming fixed-size data packets in N input buffers at a first data rate;

outputting the fixed-size data packets from the N input buffers at a second data rate equal to at least twice the first data rate;

transferring the fixed-size data packets output by the N input buffers at the second data rate through a bufferless, non-blocking interconnecting network to N output buffers;

storing the fixed-size data packets transferred through the bufferless, non-blocking interconnecting network in the N output buffers at the second data rate; and

outputting the fixed-size data packets from the N output buffers at the first data rate.

5. (Original)   The method as set forth in Claim 4 wherein the bufferless, non-blocking interconnecting network comprises a bufferless crossbar.

6. (Original)   The method as set forth in Claim 5 wherein each of the N input buffers is at least twice the size of each of the N output buffers.

7. (Original)   A fixed-size data packet switch comprising:

N input ports capable of receiving incoming fixed-size data packets at a first data rate and outputting said fixed-size data packets at said first data rate;

N output ports capable of receiving fixed-size data packets at said first data rate and outputting said fixed-size data packets at said first data rate; and

a switch fabric interconnecting said N input ports and said N output ports comprising:

N input buffers capable of receiving incoming fixed-size data packets at said first data rate and outputting said fixed-size data packets at a second data rate equal to at least twice said first data rate;

N output buffers capable of receiving fixed-size data packets at said second data rate and outputting said fixed-size data packets at said first data rate; and

a bufferless, non-blocking interconnecting network capable of receiving from said N input buffers said fixed-size data packets at said second data rate and transferring said fixed-size data packets to said N output buffers at said second data rate.

8. (Original)   The fixed-size data packet switch as set forth in Claim 7 wherein said bufferless, non-blocking interconnecting network comprises a bufferless crossbar.

9. (Original)   The fixed-size data packet switch as set forth in Claim 7 wherein each of said N input buffers is at least twice the size of each of said N output buffers.

10. (Original) The fixed-size data packet switch as set forth in Claim 7 further comprising a scheduling controller capable of scheduling transfer of said fixed-size data packets from said N input ports to said switch fabric.

11. (Original) The fixed-size data packet switch as set forth in Claim 10 wherein said scheduling controller is capable of scheduling transfer of said fixed-size data packets from said N output ports to an external device.

12. (Original) The fixed-size data packet switch as set forth in Claim 10 wherein said scheduling controller is capable of scheduling transfer of said fixed-size data packets from said N input buffers to said bufferless, non-blocking interconnecting network.

13. (Original) The fixed-size data packet switch as set forth in Claim 12 wherein said scheduling controller is capable of scheduling transfer of said fixed-size data packets from said N output buffers to said N output ports.

14. (Original) A communication network capable of transferring data in fixed-size packets between a plurality of end-user devices, said communication network comprising:

a plurality of fixed-size data packet switches, at least one of said fixed-size data packet switches comprising:

N input ports capable of receiving incoming fixed-size data packets at a first data rate and outputting said fixed-size data packets at said first data rate;

N output ports capable of receiving fixed-size data packets at said first data rate and outputting said fixed-size data packets at said first data rate; and

a switch fabric interconnecting said N input ports and said N output ports comprising:

N input buffers capable of receiving incoming fixed-size data packets at said first data rate and outputting said fixed-size data packets at a second data rate equal to at least twice said first data rate;

N output buffers capable of receiving fixed-size data packets at said second data rate and outputting said fixed-size data packets at said first data rate; and

a bufferless, non-blocking interconnecting network capable of receiving from said N input buffers said fixed-size data packets at said second data rate and transferring said fixed-size data packets to said N output buffers at said second data rate.

15. (Original) The communication network as set forth in Claim 14 wherein said bufferless, non-blocking interconnecting network comprises a bufferless crossbar.

16. (Original) The communication network as set forth in Claim 14 wherein each of said N input buffers is at least twice the size of each of said N output buffers.

17. (Original) The communication network as set forth in Claim 14 further comprising a scheduling controller capable of scheduling transfer of said fixed-size data packets from said N input ports to said switch fabric.

18. (Original) The communication network as set forth in Claim 17 wherein said scheduling controller is capable of scheduling transfer of said fixed-size data packets from said N output ports to an external device.

19. (Original) The communication network as set forth in Claim 17 wherein said scheduling controller is capable of scheduling transfer of said fixed-size data packets from said N input buffers to said bufferless, non-blocking interconnecting network.

20. (Original) The communication network as set forth in Claim 19 wherein said scheduling controller is capable of scheduling transfer of said fixed-size data packets from said N output buffers to said N output ports.